

Basic Safety & Operational Specifications for Active Barriers

X57-605 RTD Input (in haz. area) to Isolated Current or Voltage Transmitter Output

- ◆ Accepts a 2 or 3-Wire RTD Input from Haz. Area
- ◆ Plug-in Style to Simplify Installation, Commissioning, and Maintenance
- ◆ Provides Isolated Current or Voltage Signal to Safe Area
- ◆ Optional Linearizing Circuit for Greater System Accuracy
- ◆ Single or Multi-barrier Surface Mount Chassis Options

DESCRIPTION: The Model X57-605 functions as a safety barrier and a transmitter between an RTD located in a hazardous area and instrumentation located in a safe area. The module utilizes transformers to provide isolation between the safe and hazardous areas and does not require an intrinsically safe ground connection. The power transformer used is constructed to provide 2,500 Vrms isolation between the hazardous area and the signal output and power input in the safe area. Either, or both, the hazardous area and the safe area signals may be grounded. The Model X57-605 can optionally provide linearization for platinum RTD's, and it is available with several common voltage or current output formats. These formats include 4-20 mA and 1-5 VDC, etc.



SPECIFICATIONS:

Type: active galvanic isolation
Chassis: plug-in single or multi-barrier chassis
Mounting: surface mount (single/multiple barrier) or single DIN rail mount
Wiring: all wiring and grounding connects to terminals on the chassis
Wire Size: up to #12 awg (1.5 mm²)
Size: 3.6"H X 0.88"W X 4.75"D (without chassis) (91.44mm X 22.35mm X 120.65 mm)
Weight: 6 oz (168 gm) (without chassis)
Power Supply: 24 VDC (21.6 to 26.4 VDC)
Power Consumption: 1.5 watts at 24 vdc

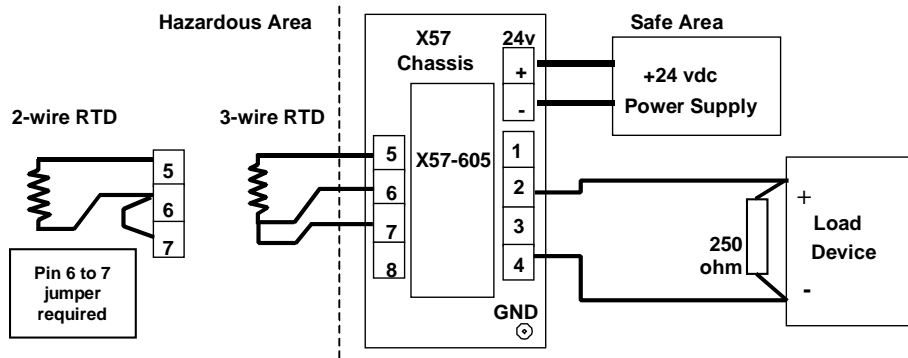
Input Types: 2 or 3-wire RTD's (10, 100, or 120 ohm)
Inputs Impedance: 10K Ohms
Outputs: 4-20 mA into 900 ohm load (powered by barrier)
 1-5 VDC (250 ohm output impedance)
 0-5 VDC, 0-10 VDC, 2-10 VDC
Input/Output Isolation: 2500 Vrms
Accuracy: +/- 0.15%
Adjustments: front access ZERO and SPAN (+/- 10%)
Temp. Stability: +/- 0.015% of span per °C (spans => 50 °C)
Operating Temp.: -4°F to 131°F (-20°C to +55°C)
Storage Temp.: -40°F to 176°F (-40°C to +80°C)
Approvals: Class I, II, III; Div.1; Grps A-G

Specifications apply at 23 +/- 2°C (74 +/- 2°F) unless otherwise specified, and are subject to change without notice,

| SAFETY PARAMETERS: | | | | Ca (µF) | | | La (mH) | | |
|---------------------------|--|-------------|----------------|---------------|----------------|-----------------|---------------|----------------|-----------------|
| | Voc/ Vmax/Uz | Isc (mA) | Rmin (ohms) | Groups A/B | Groups C, E | Groups D,F,G | Groups A/B | Groups C, E | Groups D,F,G |
| FM | 5.72 | 401.4 | | 49.95 | 149.86 | 339.63 | 0.25 | 1.07 | 1.87 |
| CSA | 5.72 | | 15 | approved | approved | approved | approved | approved | approved |
| UL | Pending | | | | | | | | |
| CENELEC | See Data Sheet "X57EN-605" for CENELEC equivalent barrier. | | | | | | | | |

X57-605 RTD Input (in haz. area) to Isolated Current or Voltage Transmitter Output (con't)

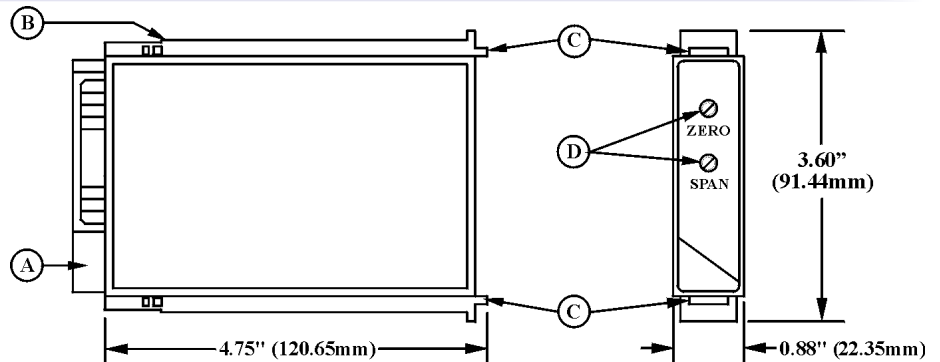
APPLICATION:



Important Note: 1.) I.S. ground is not required.
2.) barrier provides power for output loop

MECHANICAL DETAIL:

- A = connector protection/ alignment shroud
- B = chassis locking ears
- C = quick release tabs
- D = zero and span adjustments



ORDERING INFORMATION:

Barriers: X57-605(L)-()-()-() RTD input active isolation I.S. barrier/transmitter
 Outputs: -B = 4-20 mA; -D = 1-5 VDC, -E = 2-10 VDC
 Input Range: e.g. -(0/500F) = 0 to 500°F
 RTD Type: -9 = 10 ohm copper @ 25°C; -10 = 10 ohm copper @ 0°C;
 -120 = 120 ohm Nickel; -100 = 100 ohm Platinum (.003902 curve);
 -100DIN = 100 ohm Platinum (.00385 curve)
 Linearized Output: "L"; (this option is only available on -100 and -100DIN RTD's)

Chassis Options:

- X57-PDIN-32 single barrier chassis for 32 mm "G" style DIN rails
- X57-PDIN-35 single barrier chassis for 35 mm "U" style DIN rails
- X57SM-1 single barrier surface mount chassis
- X57SM-1-3-4 single barrier surface mount chassis with optional ground bar and four ground clamps
- X57SM-4-(?)-(??)-(???) four (4) barrier surface mount chassis (gnd. bars & clamps optional)
- X57SM-10-(?)-(??)-(???) ten (10) barrier surface mount chassis (gnd. bars & clamps optional)
- X57SM-16-(?)-(??)-(???) sixteen barrier surface mount chassis (gnd. bars & clamps optional)
- X57SM-20-(?)-(??)-(???) twenty barrier surface mount chassis (gnd. bars & clamps optional)

- ? ➔ 1= optional ground bar on safe side; 2= optional gnd. bar on haz. side; 3= gnd. bars on both sides; omit if not needed
- ?? ➔ Qty of gnd. clamps on safe side gnd bar. (max qty.= 16 for SM-4, 40 for SM-10, 64 for SM-16; 80 for SM-20) or omit
- ??? ➔ Qty of gnd. clamps on haz. side gnd bar. (max qty.= 16 for SM-4, 40 for SM-10, 64 for SM-16; 80 for SM-20) or omit

Accessories:

- X57-GC ground clamps;
- X57-BLK blank panel for unused chassis position
- D1-32x15 32 mm X 15mm "G" style DIN rail (order by the foot)
- D2-35x7.5 35 mm X 7.5 mm "U" style DIN rail (order by the foot)

